

# STRUCTURE AND METHOD FOR IMPROVED FIELD EMITTER ARRAYS

## Abstract of the Disclosure

A method and structure are provided for simultaneously fabricating  
5 polysilicon cones for a field emitter and a porous insulating oxide layer for  
supporting a gate material. The porous insulating oxide is fabricated by first making  
the polysilicon porous in the field regions by an anodic etch and then oxidation.  
This is a fully self-aligned process and only one masking is used. Shaping of the  
gate material in close proximity to the top of the cone is achieved by a lift-off  
10 technique and requires no special deposition techniques like depositions at a grazing  
incidence to improve the emitter.

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